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The New Oil and Gas Governance

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ABSTRACT. As technologies change and the scale of human activity grows, so too does the law. The surge of oil and gas production in the United States, spurred by hydraulic fracturing in shale formations, has fomented a sea change in oil and gas law, substantially infusing this area with more complex environmental and property principles. Widespread demands for legal and policy-based solutions to the environmental and social impacts of oil production and fracking have transformed the field from one focused on maximizing fossil fuel production into one of environmental conservation. This is dramatically demonstrated by sweeping Colorado legislation in 2019, changes to the common law of oil and gas by local governments and landowners, and the extension of procedural environmental protections and state constitutional environmental rights to the oil and gas realm. Collectively, though not uniformly, a spectrum of changes to state statutes and common law has rendered an expansive reshaping of oil and gas law that amounts to a legal revolution.

INTRODUCTION

The United States is now the world's top producer of oil and gas, outpacing Saudi Arabia, Russia, and the other fossil fuel giants. This is a stark economic change, reversing decades of concerns about dependence on imports. But this trend has also wrought substantial changes in oil and gas governance, particularly as domestic fossil fuel development has expanded into populous areas. In one of the most dramatic examples of the collision between residential land use and oil and gas development, the area around Denver, Colorado hosts both one of the fastest-growing human populations and a similarly fast-growing drilling operation, with over 23,000 wells in Weld County alone.¹ And Fort Worth, Texas

1. Troy E. Swain, *Weld County Oil & Gas Update April 2018: Active Wells, Drilling Permits, Production, Rig Count, Trends*, https://www.weldgov.com/UserFiles/Servers/Server_6/File

has more than 2,000 producing wells.² In these and other areas, hydraulically fractured wells regularly appear in the middle of neighborhoods and the backyards of schools.

Urban and suburban drilling is by no means a new trend. As early as the 1930s, oil and gas wells were prominent fixtures in places such as Houston, Texas and Long Beach, California.³ But as hydraulic fracturing, or “fracking,” enabled the drilling of thousands of new wells in the past decades, several of the largest drilling booms have caused major collisions of interests. Homeowners seeking the good life in places like Colorado’s Front Range are increasingly standing in vocal opposition to domestic companies that pursue highly productive oil and gas reserves.⁴ And in some cases the homeowners have won. In 2019, Colorado enacted a new statute that empowers local governments to regulate numerous impacts of oil and gas development and requires broader state regulation of environmental externalities from oil and gas production.⁵

The collision of human and fossil fuel interests has dragged oil and gas governance from a once-sleepy area of dusty books to the front lines of legal debates. For more than half a century, U.S. oil and gas law focused almost exclusively on the conservation of oil and gas resources, ensuring that when companies drilled wells, they would extract as much oil and gas from the ground as possible.⁶ The

/Departments/Planning%20&%20Zoning/Oil%20and%20Gas/Updates/Oil%20%20Gas%20Update%20APR%202018.pdf [https://perma.cc/Z6CL-QLHF].

2. David A. Dana & Hannah J. Wiseman, *Fracking as a Test of the Demsetz Property Rights Thesis*, 71 HASTINGS L.J. 845 (2020) (using Colorado as an example of the human oil and gas conflict); *Gas Well Status*, CITY OF FORT WORTH, <https://cfw.maps.arcgis.com/apps/webappviewer/index.html?id=8487c19655cd40d08d57f64de3f4339f>.
3. See *Tysco Oil Co. v. R.R. Comm’n*, 12 F. Supp. 195, 196 (S.D. Tex. 1935) (noting that in 1935 “it became apparent” that an individual was leasing a large amount of acreage and planning to drill); *Historical Oil Operations*, CITY OF LONG BEACH, <http://www.longbeach.gov/energyresources/about-us/oil/history> [https://perma.cc/8D3E-2VWV] (counting 3,400 “land based wells” drilled since 1932).
4. See Dana & Wiseman, *supra* note 2, at 852–53 (discussing this conflict); Julie Turkewitz, *In Colorado, a Fracking Boom and a Population Explosion Collide*, N.Y. TIMES (May 31, 2018), <https://www.nytimes.com/2018/05/31/us/colorado-fracking-debates.html> [https://perma.cc/5C24-6E36] (describing the conflict between a growing population and increasing numbers of wells).
5. Protect Public Welfare Oil and Gas Operations, S.B. 19–181, 72d Gen. Assemb., Reg. Sess. (Colo. 2019), https://leg.colorado.gov/sites/default/files/2019a_181_signed.pdf [https://perma.cc/2ZB2-CK3C].
6. See Bruce M. Kramer, *Basic Conservation Principles and Practices: Historical Perspectives and Basic Definitions*, in FEDERAL ONSHORE OIL AND GAS POOLING AND UNITIZATION 1 (2006) (“Early conservation regulation . . . was principally concerned with the prevention of waste in the physical sense of the term waste.”); Howard R. Williams, *Conservation of Oil and Gas*, 65 HARV. L. REV. 1155, 1155 (1952) (asserting that oil and gas conservation—the need to “make

goal of legislatures and courts was to ensure efficient production of what was nearly universally viewed, at least in oil and gas states, as a positive and highly lucrative commodity.⁷ Doctrines such as the “rule of capture” provided that any entity that drilled a legal well could drain others’ oil and gas without paying them damages.⁸ This rewarded those who were most motivated to drill and thus incentivized production. And state courts universally declared the mineral estate (oil and gas and other resources) to be dominant over the surface, allowing mineral owners to use the surface in any reasonable way necessary to produce oil and gas without paying the surface owner any damages.⁹ In the most notorious cases, oil and gas producers drained off surface owners’ entire water supply, maintained waste pits that splashed pollution directly onto surface owners’ homes, and damaged crops without providing surface owners any compensation; courts have deemed all of these actions legal.¹⁰ States, in turn, moderated the potential waste caused by oil companies racing to drill and drain each other’s oil, by requiring wells to be spaced apart by minimum distances and limiting production to avoid rapid drainage of formations that would leave valuable resources stuck underground.¹¹

In less than a decade, this field of governance has undergone a sea change. Despite oil and gas law being highly diffuse due to its locus in the states, national changes in attitudes toward oil and gas development and its impacts have filtered down to the state and local levels. Homeowners, parents of children who attend

maximum use of currently available reserves of oil and gas” — is “important to the welfare of the country”).

7. See Tara K. Righetti, *The Incidental Environmental Agency*, 2020 UTAH L. REV. (forthcoming 2020) (manuscript at 2-3), <https://ssrn.com/abstract=3347353> [<https://perma.cc/3PRA-MXAM>] (noting that the historic and ongoing role of state oil and gas regulatory agencies is “preventing waste and protecting correlative rights,” which are the rights of mineral owners to have an opportunity to produce oil and gas, and observing that “[t]he goals of conservation regulation and the tools available to commissions have changed little” since 1952).
8. See, e.g., Bruce M. Kramer & Owen L. Anderson, *The Rule of Capture — An Oil and Gas Perspective*, 35 ENVTL. L. 899, 899 (2005) (describing the rule of capture as “an integral part of oil and gas law since the completion of the first commercial oil well”).
9. Christopher M. Alspach, *Surface Use by the Mineral Owner: How Much Accommodation Is Required Under Current Oil and Gas Law?*, 55 OKLA. L. REV. 89, 91 (2002) (observing that “[o]ne of the rights included in the mineral estate is the implied right of the mineral estate owner to use ‘so much of the surface as may be reasonably necessary for operation’” (quoting *Union Producing Co. v. Pittman*, 146 So. 2d 553, 555 (Miss. 1962))).
10. See, e.g., *Sun Oil Co. v. Whitaker*, 483 S.W.2d 808, 810-12 (Tex. 1972) (allowing use of a farmer’s water); *Robinson Drilling Co. v. Moses*, 256 S.W.2d 650, 651-52 (Tex. Civ. App. 1953) (allowing the destruction of crops); *Grimes v. Goodman Drilling Co.*, 216 S.W. 202, 203 (Tex. Civ. App. 1919) (allowing oil and gas waste pits to spatter pollution onto an owner’s home); *Adkins v. United Fuel Gas Co.*, 61 S.E.2d 633, 636 (W. Va. 1950) (allowing for the destruction of crops).
11. Williams, *supra* note 6, at 1159-77 (describing state oil and gas conservation laws).

schools near oil and gas development sites, environmental groups, and other stakeholders have vocally and persuasively called for states to take a broader view of oil and gas conservation law to encompass *environmental* conservation.¹² Many state oil and gas agencies now directly regulate the impacts of oil and gas development to prevent pollution of underground and surface water; reduce the noise, dust, light, and other impacts often complained of by neighbors to wells; and protect wildlife and other natural resources.¹³ This is not to say that the regulation is adequate from the perspective of some landowners and citizens' groups, but it has changed substantially in response to concerns. Additionally, oil and gas law is a leading area of preemption debate.

Many local governments, worried that states are not doing enough to regulate oil and gas, have taken matters into their own hands. States have limited the areas in which wells are allowed, implemented detailed environmental regulations of their own, and often attempted to permanently ban or place moratoria on development.¹⁴ The response by most states has been to preempt this local revolution, but there are notable exceptions.¹⁵ The contrast in responses shows up most starkly in Texas and Colorado, which have both experienced some of the most substantial levels of urban and suburban drilling. The Colorado legislature has enabled strong local control over oil and gas development,¹⁶ whereas Texas has substantially limited it.¹⁷ And finally, beyond preemption and local control issues, the recent oil and gas revolution has prompted courts to revisit

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12. See generally Righetti, *supra* note 7 (discussing changing public attitudes toward oil and gas development and new types of legal challenges).
 13. See, e.g., N.D. ADMIN. CODE 43-02-03-28 (2020) (requiring setbacks of wells from residences); 58 PA. STAT. AND CONS. STAT. ANN. § 3215(b)(3) (West 2012) (requiring wells to be setback 300 feet from wetlands greater than one acre in size); 16 TEX. ADMIN. CODE § 3.13 (2020) (mandating enhanced casing requirements, added in 2014 in an effort to prevent underground water contamination from hydraulically fractured wells); W. VA. CODE § 22-6A-12(a) (2011) (requiring setbacks of wells from residences); OFFICE OF CONSERVATION, STATE OF LA., ORDER NO. U-HS § 2(A) (2009), http://dnr.louisiana.gov/assets/OC/eng_div/20090806-U-HS.pdf [<https://perma.cc/F3EM-CET5>] (requiring setbacks of wells from residences).
 14. See Uma Outka, *Intrastate Preemption in the Shifting Energy Sector*, 86 U. COLO. L. REV. 927, 956-65 (2015) (exploring local regulatory provisions and bans); Hannah J. Wiseman, *Disaggregating Preemption in Energy Law*, 40 HARV. ENVT'L. L. REV. 293, 303-04 (2016) (same).
 15. See Outka, *supra* note 14, at 966-75 (describing preemption trends and cases); Wiseman, *supra* note 14, at 306 (describing widespread preemption of local control over oil and gas development).
 16. S.B. 19-181, 72d Gen. Assemb., Reg. Sess. (Colo. 2019).
 17. TEX. NAT. RES. CODE ANN. § 81.0523 (West 2015).

the rule of capture that allows unlimited drainage of oil and gas from property around the oil or gas well, causing a doctrinal split to emerge among the states.¹⁸

This Essay explores the overall trend toward an oil and gas governance regime increasingly focused on development risks and analyzes the growing divergence of state responses. In doing so, it assesses the conditions that have challenged previously universal legal doctrines. Part I of this Essay examines recent changes in oil and gas conservation law that provide avenues for states, and increasingly local governments, to prohibit rather than incentivize oil and gas production. Part II then compares conflicting state responses to local control over oil and gas, documenting the primary trend of intrastate preemption and the unusual case of local-government autonomy in Colorado. Part III turns to the courts and property law, exploring how the boom in domestic oil and gas development has forced courts to reconsider the age-old rule of capture and its associated production incentives. Finally, Part IV analyzes how citizens have used existing environmental statutes, including requirements for government entities to review the impacts of their regulatory action, to push states and the federal government to regulate rather than foster oil and gas development.

These changes represent, on the whole, a fundamental shift in oil and gas law and demonstrate the complex turns that it has taken. In an area of the law so dominated by state, not federal, control, the collective response has markedly shifted, but not universally so. As scholars of federalism would predict, courts and legislatures, facing disparate demands, histories, and political economic forces, have created a spectrum of new policies. And states such as California are considering changes similar to Colorado's while industry pushes back in the courts, thus promising further policy experimentation and litigation as the field continues to evolve.¹⁹

I. REFORMING STATE OIL AND GAS CONSERVATION LAWS

In recent years, states have begun explicitly revising their oil and gas statutes to incorporate environmental principles. Colorado exemplifies this approach. In April 2019, Colorado's legislature radically overhauled its state oil and gas conservation statute and regulatory agency,²⁰ mandating a substantial turn toward

18. See *infra* Part III.

19. See AB-345, 2020 Leg., Reg. Sess. (Cal. 2020), https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201920200AB345 [<https://perma.cc/R8G8-F72J>] (proposing a comprehensive review of California's oil and gas regulations to address environmental-justice gaps, increase setbacks from homes, schools, and other sensitive receptors, and to adopt new consultation requirements for oil and gas operations).

20. See S.B. 19-181.

environmental conservation in a leading oil and gas state.²¹ Among other provisions, the bill requires members of the oil and gas regulatory agency to have experience in land-use planning and “environmental protection, wildlife protection, or reclamation,” in addition to oil and gas experience.²² It also requires the state to minimize a variety of impacts from oil and gas development, such as air and water pollution,²³ and it expressly grants local governments enhanced regulatory authority.²⁴ This is a dramatic shift from the predominant oil and gas governance approach in most states – and, indeed, from the approach in Colorado until 2019.

Oil and gas production has been subject to state regulation since the early part of the twentieth century. States initially enacted laws to constrain the profligate waste that characterized oil and gas production and to assure that oil and gas resources were prudently and efficiently developed. Accordingly, early conservation efforts resulted in a patchwork of regulations that took the form of restrictions on inefficient end uses or the sale of oil and gas into glutted markets. These early statutes survived due process and other constitutional challenges, establishing the states’ right to regulate oil and gas production and constrain the rule of capture (a right to unfettered production from a legally drilled well) as necessary to protect public health, safety, and welfare. Today, a majority of states has passed legislation creating state regulatory agencies for the purpose of conserving oil and gas and preventing physical waste. These statutes are designed to foster and encourage orderly production and to maximize recoverable reserves, while protecting the correlative property rights of other owners in the common pool.

State oil and gas conservation agencies play a significant role in regulating oil and gas development activities on private and state land.²⁵ The majority of states has created specific agencies that regulate upstream (at the well site) oil

21. Colorado was the fifth largest producer of oil in January 2020, behind Texas, North Dakota, New Mexico, and Oklahoma. *Monthly Crude Oil and Natural Gas Production*, U.S. ENERGY INFO. ADMIN. (Mar. 31, 2020), <https://www.eia.gov/petroleum/production> [<https://perma.cc/476S-B9RR>].

22. S.B. 19-181 § 9.

23. *Id.* § 3.

24. *Id.* § 4.

25. See, e.g., COLO. REV. STAT. § 34-60-105 (2020); N.M. STAT. ANN. § 70-2-6 (West 2020); OKLA. STAT. tit. 17, § 52 (2020); 58 PA. STAT. AND CONS. STAT. ANN. § 405 (West 2020); TEX. NAT. RES. CODE § 81.051 (West 2019); WYO. STAT. ANN. § 30-5-104 (2020); Patrick H. Martin, *The Jurisdiction of State Oil and Gas Commission Oil and Gas Conservation Law and Practice*, in OIL AND GAS CONSERVATION LAW AND PRACTICE 3-1, 3-4, 3-5 (1985). The oil and gas regulatory sphere also includes federal and local actors, as well as state environmental regulatory agencies. See Hannah J. Wiseman, *Coordinating the Oil and Gas Commons*, 2014 BYU L. REV. 1543, 1561, 1589-90 (2014).

and gas development and operations including permitting, well locations and density, rates of oil and gas production, flaring (burning off natural gas that escapes from the well), water use and disposal, and fracking.²⁶ These agencies play a critical role in determining the timing and intensity of oil and gas operations. Thus far, however, state oil and gas conservation law has done little to address growing awareness and concern regarding the localized health and environmental externalities of oil and gas development, local disenfranchisement, or landscape-scale impacts to ecosystems, wildlife, and climate systems.²⁷ Although a number of state legislatures have made minor amendments to conservation statutes in the 1990s and early 2000s to address growing environmental concerns,²⁸ the fundamental structure and purposes of conservation agencies have remained static.

In recent years, however, state conservation agencies have pursued new rule-makings related to statutory authorizations to protect health, safety, and the environment. Environmental advocates and landowners in communities with oil and gas development have exerted increased pressure on conservation agencies to limit the externalities of development.²⁹ As a result, agencies have enacted new rules to create setbacks from homes, schools, public-recreation facilities, and sensitive ecological areas.³⁰ Conservation agencies verify compliance with surface and environmental protections as part of the drill permit process.³¹ Agency rules have also addressed latent safety concerns and required additional

26. COLO. CODE REGS. §§ 404-1:205, 404-1:317, 404-1:317B, 404-1:341, 404-1:608, 404-1:903, 404-1:904, 404-1:906 (2020).

27. See Hannah J. Wiseman, *Risk and Response in Fracturing Policy*, 84 U. COLO. L. REV. 729 (2013) (highlighting some state regulatory changes but also substantial gaps in regulation).

28. COLO. REV. STAT. § 34-60-106(2)(d) (2013); 1995 Ill. Laws 3095; 2000 Okla. Sess. Laws 1839. The scope of the text was litigated in *Martinez v. Colo. Oil & Gas Conservation Comm'n*, 433 P.3d 22 (Colo. 2019).

29. *In re* Petition for Rulemaking Filed with the COGCC, Cause No. 1, Order No. 1-187 (May 29, 2014), <https://cogcc.state.co.us/orders/orders/1/187.html> [<https://perma.cc/HE6D-DJN6>]; *Railroad Commission Petitioned to Replace Local Oil and Gas Rules Threatened by House Bill 40*, ENVTL. DEF. FUND (Apr. 7, 2015) <https://www.edf.org/media/railroad-commission-petitioned-replace-local-oil-and-gas-rules-threatened-house-bill-40> [<https://perma.cc/3A2L-CUM9>].

30. See 2 COLO. CODE REGS. § 404-1:604.a(2) (LexisNexis 2020); MONT. ADMIN. R. 36.22.620(2) (2017); 55-3 WYO. CODE R. § 47(a) (LexisNexis 2020).

31. See, e.g., COLO. OIL & GAS CONSERVATION COMM'N, COGCC RULES & REGULATIONS 1201-05 (2020), <https://cogcc.state.co.us/documents/reg/Rules/LATEST/1200Series.pdf> [<https://perma.cc/76MA-DCRQ>]; WYO. RULES & REGS. OIL & GAS CONSERVATION COMM'N, ch. 3, § 8 (2020); *id.* § 47; Exec. Order No. 2019-3, App'x D (Wyo. 2019); COLO. OIL & GAS CONSERVATION COMM'N, FORM 2 (Aug. 2013), https://cogcc.state.co.us/forms/PDF_Forms/form2_20130806.pdf [<https://perma.cc/ZBN6-PV5C>].

monitoring and reporting of development activities that pose environmental and safety risks such as hydraulic fracturing and flowline abandonment.³²

State legislatures have also responded to the rising conflicts between residential development and oil and gas development by enacting new protections for split-estate surface owners. Where surface and mineral estates have been severed, early courts implied a general servitude on the surface estate, allowing the mineral owner reasonable use of the surface for development of oil and gas.³³ These rights included the rights to clear land, create drilling pads and waste pits, use surface and ground water, and house employees.³⁴ At common law, the surface owners were not entitled to any compensation for destruction of the surface, loss of income, or disturbance.³⁵ However, embedded in the implied servitude was an obligation that mineral owners exercise their rights with due regard for the interests of surface owners. This obligation is one that state courts have expanded into a doctrine requiring reasonable accommodation of existing surface uses.³⁶ Despite some protection for surface interests under the common law, acrimonious conflicts between surface and mineral owners continued, prompting legislative intervention. Beginning in the early 2000s, state legislatures began enacting laws that required notice to surface owners and payments for loss of use, damage, and disruption resulting from lawful mineral operations.³⁷ Today, almost all major producing states, with the exception of Texas and California,

32. COLO. OIL & GAS CONSERVATION COMM'N, COGCC RULES & REGULATIONS 1105a-g et seq. (2020). See generally COLO. OIL & GAS CONSERVATION COMM'N, COGCC RULES & REGULATIONS, Series 800-1200 et seq. (2019) (requiring the Commission to regulate noise, waste, and other environmental harms).

33. See John S. Lowe, *The Easement of the Mineral Estate for Surface Use: An Analysis of Its Rationale, Status, and Prospects*, 39 ROCKY MTN. MIN. L. INST. § 4.01, § 4.02. (1993); Richard T. Miller, *A Mineral Owner's Implied Rights to Use Surface Property Owned by Others*, 32 ENERGY & MIN. L. INST. 203, 205-08, 213-14, 216, 226 (2011).

34. See *supra* note 9 and accompanying text.

35. EOG Res., Inc., v. Turner, 908 So. 2d 848, 854-55 (Miss. Ct. App. 2005); Amoco Prod. Co. v. Carter Farms Co., 703 P.2d 894, 897 (N.M. 1985); Moser v. U.S. Steel Corp., 676 S.W.2d 99, 103 (Tex. 1984).

36. Getty Oil Co. v. Jones, 470 S.W.2d 618, 621 (Tex. 1971); see Diamond Shamrock Corp. v. Phillips, 511 S.W.2d 160, 163 (Ark. 1974); Gerrity Oil & Gas Corp. v. Magness, 946 P.2d 913, 919 (Colo. 1997); Hunt Oil Co. v. Kerbaugh, 283 N.W.2d 131, 135 (N.D. 1979); Amoco Prod. Co., 703 P.2d at 896; Flying Diamond Corp. v. Rust, 551 P.2d 509, 511 (Utah 1976); Buffalo Mining Co. v. Martin, 267 S.E.2d 721, 725 (W. Va. 1980); Mingo Oil Producers v. Kamp Cattle Co., 776 P.2d 736, 740 (Wyo. 1989).

37. See Christopher S. Kulander, *Surface Damages, Site-Remediation and Well Bonding in Wyoming—Results and Analysis of Recent Regulations*, 9 WYO. L. REV. 413, 417-422 (2009).

have either some version of a surface-damage act or statutory requirements for accommodation.³⁸

Although they addressed some landowner concerns, split-estate statutes did not resolve community and local government concerns regarding the local externalities of oil and gas development. These externalities include air pollution, injury to water quality or wildlife, and increased strain on housing and public services, among others.³⁹ Whereas split-estate acts provided statutory remedies to property owners owning the immediately overlying real property, they did not address concerns of neighbors and municipalities. And although tort law provides some redress, local governments were largely preempted with respect to regulation of the industry.⁴⁰ In response, communities sought to regulate or limit development through land-use restrictions, and voters made use of ballot initiative and petition processes to amend state conservation statutes.⁴¹ These efforts were largely unsuccessful at structurally altering oil and gas conservation laws, but they precipitated legislative action.

Colorado's legislative overhaul of its Oil and Gas Act in Senate Bill 19-181 takes the next step in reforming oil and gas conservation governance to align with changing political, social, and judicial opinions regarding oil and gas exploration.⁴² This law repeals, adds, and amends the language of sixteen existing Colorado statutes related to the regulation of oil and gas, including those for the Colorado Air Quality Control Commission, Oil and Gas Conservation Commission, and local governments.⁴³ Collectively, these changes offer a new paradigm of oil and gas conservation regulation, one that prioritizes protection of the environment and regulation of the industry, redefines waste to permit nonproduction, requires multiagency coordination around environmental and wildlife

38. ARK. CODE ANN. §§ 15-72-214, -216 to -219 (2016); COLO. REV. STAT. § 34-60-127(1)(d) (2018); 765 ILL. COMP. STAT. ANN. 530/6(B) (West 2018); KY. REV. STAT. ANN. § 353.595 (West 2018); MONT. CODE ANN. § 82-10-504 (West 2017); N.M. STAT. ANN. § 70-12-5 (West 2018); N.C. GEN. STAT. §§ 113-420 to 113-425 (2018); N.D. CENT. CODE. § 38-18-07 (2018); OKLA. STAT. tit. 52, § 318.2-.9 (2018); S.D. CODIFIED LAWS § 45-5A-4.1 (2018); TENN. CODE ANN. § 60-1-604 (2018); UTAH CODE ANN. § 40-6-21 (West 2018); W. VA. CODE § 22-7-3(a)(1) (West 2018); WYO. STAT. ANN. § 30-5-405 (2018).

39. See, e.g., Hannah J. Wiseman, *Taxing Local Energy Externalities*, 96 NOTRE DAME L. REV. (forthcoming 2020) (describing these and other impacts).

40. See *supra* note 15 and accompanying text.

41. See Tara K. Righetti, *Contracting for Sustainable Surface Management*, 71 ARK. L. REV. 367, 397 (2018) (explaining how both private and public landowners use lease to manage conflicts over the impact of development).

42. S.B. 19-181, 72d Gen. Assemb., Reg. Sess. (Colo. 2019).

43. S.B. 94-177, 59th Gen. Assemb., Reg. Sess. ch. 317, at 1978 (Colo. 1994); H.B.07-1298, 66th Gen. Assemb., Reg. Sess. ch. 312, at 1328 (Colo. 2007); H.B. 07-1341, 66th Gen. Assemb., ch. 320, at 1357 (Colo. 2007).

impacts, and creates space for shared governance of oil and gas with cities and counties.

S.B. 19-181 makes its turn toward environmental conservation explicit, shifting the principal purpose of Colorado's Oil and Gas Act to regulation of the industry for protection of the environment.⁴⁴ This change, referred to as the “Mission Change” in documents of the Colorado Oil and Gas Conservation Commission (COGCC), requires a comprehensive “realignment and reform of commission rules.”⁴⁵ In a shift that mirrors the requirements of some environmental procedure statutes, S.B. 19-181 authorizes the commission to consider cumulative impacts and alternative locations for wells, to require public comment on sensitive locations, and to consider mitigation without regard to cost-effectiveness or technical feasibility.⁴⁶

Recognizing that oil and gas may not be produced as a result of these new rules, S.B. 19-181 also revises its statutory definition of waste to exclude nonproduction of oil and gas necessary to protect public interests in “health, safety, and welfare, the environment or wildlife resources.”⁴⁷ Traditionally, conservation law has treated the prevention of waste – avoiding a well that leaves some oil and gas underground – as paramount over almost all other concerns.⁴⁸ The goal of regulation has principally been to maximize production of the resource and to

44. COLO. REV. STAT. § 34-60-102(1)(I) (West 2020); *Mission Change Whitepaper*, COLO. OIL & GAS CONSERVATION COMMISSION (Nov. 1, 2019), https://cogcc.state.co.us/documents/sb19181/Rulemaking/Mission%20Change/Mission_Change_Rulemaking_Whitepaper_20191101.pdf [<https://perma.cc/UY83-6JAG>].

45. *Mission Change Whitepaper*, *supra* note 44, at 1.

46. S.B. 19-181 §§ 12, 16; *see also* COLO. REV. STAT. § 34-60-103(5.5)(b) (West 2020) (noting that the phrase “minimize adverse impacts,” as used in the Colorado Code, includes “those impacts that cannot be avoided”). Rulemaking to implement these new requirements is currently ongoing, the Colorado Oil and Gas Conservation Commission (COGCC) released draft Strawdog 800, 900, and 1200 Series Mission Change Rules on May 1, 2020. Hearings on the mission change, cumulative impacts, and alternative site locations rulemakings are tentatively scheduled for August 24, 2020 to September 10, 2020. Press Release, Colo. Oil & Gas Conservation Comm’n, Colorado Oil & Gas Conservation Commission Announces SB 19-181 Rulemaking Plan (Apr. 29, 2020), https://cogcc.state.co.us/documents/media/Press_Release_RM_&_PC_Update_April_Hearing_20200429.pdf [<https://perma.cc/BZ53-ADTQ>]. Public comments on the straw dog mission change rules and other proposed rules developed in response to SB 19-181 can be submitted on the COGCC’s website. *See Senate Bill 19-181 Public Comments*, COLO. OIL & GAS CONSERVATION COMMISSION, https://cogcc.state.co.us/sb19181.html#/public_comments [<https://perma.cc/ALW7-PFVD>].

47. COLO. REV. STAT. 34-60-103(11)(B) (West 2020).

48. *Sw. Kan. Royalty Owners Ass’n v. State Corp. Comm’n*, 769 P.2d 1, 9 (Kan. 1989) (“Prevention of waste is the primary purpose of the gas conservation laws.” (citation omitted)); *Denver Producing & Refining Co. v. State*, 184 P.2d 961, 964 (Okla. 1947); *Gilmore v. Oil & Gas Conservation Comm’n*, 642 P.2d 773, 779 (Wyo. 1982) (“[P]revention of waste is of primary importance.”).

prevent actions that could render portions of the resource unrecoverable.⁴⁹ Although courts and some conservation agencies have shown a willingness to consider environmental impacts as part of a waste calculus in limited contexts,⁵⁰ Colorado's new statute reconceptualizes the commons regulated by the COGCC as one that includes, and in fact prioritizes, protection of the environment. This change introduces the possibility that the commission could prohibit drilling in areas where development was deemed to pose an unreasonable risk notwithstanding that the underlying resources would be unrecoverable.⁵¹

Colorado's amended Oil and Gas Conservation Act also expands the regulatory landscape and takes a multilevel approach to regulation of oil and gas development. It reallocates authority between the oil and gas conservation agency, the Department of Environmental Quality, and local governments. This reallocation democratizes the regulation of oil and gas development by, for example, adopting inclusive consultation requirements.⁵² The statute also rejects preemption of local regulation and expressly imbues local governments with the right to regulate certain surface impacts of production, including, for example, noise and aesthetic impacts. The act also authorizes or directs local governments and other agencies to enact regulations for some aspects of oil and gas production, creating the possibility of concurrent and overlapping regulatory jurisdiction.⁵³ The COGCC is currently working with the Department of Health and Environment and local governments to ensure that these regulations are complementary and do not impede the goals of other programs.⁵⁴

49. Cf. Northcutt Ely, *The Conservation of Oil*, 51 HARV. L. REV. 1209, 1219-20 (1938).

50. See, e.g., *Gulf Oil Corp. v. Morton*, 493 F.2d 141, 145 (9th Cir. 1973) (interpreting 43 U.S.C. § 1334(a)(1) (2018)); *Michigan Oil Co. v. Nat. Res. Comm'n*, 276 N.W.2d 141, 146-47 (Mich. 1979).

51. The authors speculate that mineral owners and producers who are prohibited from drilling under the nonproduction rule and thus experience total loss or damage to their correlative rights could challenge the statute as creating a regulatory taking, though it is unclear whether such claims would be successful. For a discussion of takings law and production bans, and an argument that a takings challenge to a ban would not be successful, see, for example, Kevin J. Lynch, *Regulation of Fracking is Not a Taking of Private Property*, 84 U. CIN. L. REV. 39 (2016). In 2020, legislation was introduced and ultimately defeated in Colorado that proposed to create statutory liability for losses to fair market value as a result of local government fracking bans. See H.B. 1070, 2020 Leg. Sess. (Colo. 2020).

52. COLO. REV. STAT. § 34-60-106 (2020). Current rulemakings proposed by Commission staff suggest that the application process would be amended to facilitate consultation through a prefiling notice procedure. See *300 Series Master Draft*, COLO. OIL & GAS CONSERVATION COMMISSION (Mar. 15, 2020), https://drive.google.com/drive/folders/1GNO_gWnY3dIKSPsE3OUK6A4EyBA5eQkr [https://perma.cc/83SJ-GNX3].

53. See, e.g., COLO. REV. STAT. ANN. § 25-7-109(10)(a) (West 2020).

54. See, e.g., Memorandum from Mike Freeman, Chair Pro-Tem, Bd. of Cty. Comm'rs of Weld Cty. and Jeff Robbins, Dir., Colo. Oil & Gas Conservation Comm'n (Sept. 3, 2019),

The new Colorado approach to oil and gas regulation upends the traditional frameworks of top-down state regulation designed to maximize production of petroleum resources. Instead, it creates new pathways for more comprehensive regulation of oil and gas activities with a focus on surface and environmental impacts. The statute expressly recognizes that, at times, protecting these interests and limiting adverse externalities will require the prohibition of oil and gas development and resultant nonproduction of oil and gas. As Colorado counties, agencies, and local governments pursue new rulemaking pursuant to the changed law, they are reshaping the energy regulatory landscape and developing a new model of oil and gas conservation.

II. LOCAL GOVERNANCE AND INTRASTATE PREEMPTION: A SHIFT TOWARD LOCAL EMPOWERMENT?

Colorado's S.B. 19-181 does more than fundamentally change the landscape of state regulation of oil and gas. The decision of the Colorado Legislature to expressly imbue local governments with relatively broad authority over oil and gas development also brings oil and gas federalism into a new space.⁵⁵ Like other relatively powerful leaps in the evolution of law, however, it builds upon a long-simmering community regulatory movement. For nearly a century, local governments have sought to use their regulatory powers to address the externalities of oil and gas development, which used to be quite extreme.⁵⁶ Many local governments have issued regulations including, for example, restrictions on the location of wells, mandatory-minimum setbacks between oil and gas wells and buildings, and requirements for the posting of bonds—money that the city can use to address impacts, such as if an oil and gas operator fails to properly plug

https://www.vmcn.ca/files/longmontleader/import/2019_09_Weld-MOU-9.3.2019.pdf?utm_source=longmontleader.com&utm_campaign=longmontleader.com&utm_medium=referral [https://perma.cc/SU4R-BACK]. For an example of coordination between the Colorado Department of Public Health and Environment and the Colorado Oil and Gas Conservation Commission, see Memorandum from Jeff Robbins, Dir., Colo. Oil & Gas Conservation Comm'n (Jan. 22, 2020), https://cogcc.state.co.us/documents/reg/Policies/NT0_Notice_To_Surrounding_Building_Occupants_20200128.pdf [https://perma.cc/CA2K-GLHE], which illustrates how the COGCC enhanced review of all permits for locations within two thousand feet of building units.

55. See, e.g., Paul D. Tanaka & Jonathan E. Kidwell, *Passage of Senate Bill 19-181: New Era of Change and Uncertainty for Oil and Gas Operations in Colorado*, KIRKLAND & ELLIS LLP (Apr. 8, 2019), <https://www.kirkland.com/-/media/publications/alert/2019/03/passage-of-senate-bill-19181-new-era-of-change-and.pdf> [https://perma.cc/8PA4-27GJ] (noting that the bill “empowers communities to regulate oil and gas in a way they never could before”).
56. See, e.g., *Tysco Oil Co. v. R.R. Comm'n of Tex.*, 12 F. Supp. 195, 196 (S.D. Tex. 1935) (addressing regulation of oil and gas development in South Houston, Texas).

an abandoned well.⁵⁷ Other local governments, such as Fort Worth and Arlington, Texas have promulgated detailed ordinances that address numerous aspects of oil and gas development.⁵⁸ Still other communities have negotiated with industry to mitigate the impacts of development or pay for damages. A growing number of governments have also banned oil and gas drilling or fracking entirely, or have at least tried to do so.⁵⁹ Not all of these local efforts have been successful, however, largely due to states' opposition to local control.

Colorado's S.B. 19-181, which empowers local control over oil and gas, is largely unprecedented because the dominant trend of states has been to preempt, not empower, local action. In the first and most common form of preemption, oil and gas producers have used existing state oil and gas preemption statutes to argue that a local ordinance addressing oil and gas development is invalid. Indeed, several states have long had laws that broadly prohibit local "regulation" of oil and gas activity. Courts have interpreted state statutes as preempting local bans on drilling near drinking water supplies,⁶⁰ requirements for posting of financial assurances as bonds,⁶¹ procedures for permitting wells and hearing citizen complaints,⁶² requirements for site restoration,⁶³ and local zoning restrictions relating to the location of oil and gas wells.⁶⁴ Only a distinct minority of state courts, exemplified by the approach of New York's highest court, has held that the term "regulation" does not cover all local efforts to control the effects of oil and gas development,⁶⁵ including, for example, land-use regulation that addresses where development may occur, or banning it altogether from the local government's territory.

57. See, e.g., Outka, *supra* note 14, at 942-47 (exploring the contours of local oil and gas regulations).

58. Arlington, Tex., Ordinance No. 19-031 Ordinances Governing Gas Drilling and Production in the City of Arlington, Texas (May 21, 2019), https://arlingtontx.gov/UserFiles/Servers/Server_14481062/File/City%20Hall/Depts/City%20Secretary/City_Code_of_Ordinances/GasDrilling-Chapter.pdf [<https://perma.cc/7RNZ-GC6G>]; Fort Worth, Tex., Ordinance No. 18449-02-2009 (Feb. 3, 2009), <https://publicdocuments.fortworthtexas.gov/CSODOCS/PDF/8bda91aa-b534-4417-a672-3b306bfc5db2/Ordinance%2018449-02-2009.pdf> [<https://perma.cc/SQ5F-A8NR>].

59. See Dana & Wiseman, *supra* note 2, at 28-30 (discussing communities' memoranda of understanding with industry).

60. *Energy Mgmt. Corp. v. City of Shreveport*, 397 F.3d 297, 300, 305 (5th Cir. 2005).

61. *Range Res. Appalachia v. Salem Twp.*, 964 A.2d 869, 872, 875, 877 (Pa. 2009); *Ohio ex rel. Morrison v. Beck Energy Corp.*, 37 N.E.3d 128, 131-32 (Ohio 2015).

62. *Range Res. Appalachia*, 964 A.2d at 871; *Morrison*, 37 N.E.3d at 133.

63. *Range Res. Appalachia*, 964 A.2d at 871; *Morrison*, 37 N.E.3d at 132.

64. *Morrison*, 37 N.E.3d at 132-33.

65. *Wallach v. Town of Dryden*, 16 N.E. 3d 1188 (N.Y. 2014).

Through a second preemptive avenue, oil and gas operators challenging local ordinances in court have also persuaded the courts that state legislation impliedly preempts local oil and gas ordinances despite the lack of express preemptive language. In Colorado, New Mexico, and West Virginia, for example, courts determined that local bans or long-term moratoria on oil and gas development conflicted with state regulation, which allowed or even encouraged oil and gas development.⁶⁶

Legislatures in some states have also enacted new legislation to expressly block local control over oil and gas development. After voters in the Town of Denton, Texas banned hydraulic fracturing through a referendum, the legislature and governor responded by preempting nearly all local control over the practice.⁶⁷ Oklahoma quickly followed suit, fearing that its local governments would similarly impede oil and gas development.⁶⁸

Colorado therefore offers a stark contrast to the overwhelming trend toward state preemption of local control, but the road to this conclusion was a decidedly rocky one. There have been numerous preemption battles in the Colorado courts involving questions of the extent of local control over oil and gas development. Each case has provided only incremental answers. The Colorado Supreme Court determined that the state had not expressly preempted local land-use controls over oil and gas development or impliedly occupied the field.⁶⁹ But the court also established that local governments could not fully ban oil and gas development,⁷⁰ although they could continue to regulate this development, within limits.⁷¹ Local governments in Colorado subsequently continued to regulate oil and gas development and test the boundaries of these decisions, with four local governments banning or placing five-year moratoria on fracking. The Colorado

66. *Swepi, LP v. Mora Cty.*, 81 F. Supp. 3d 1075, 1193 (D.N.M. 2015); *City of Longmont v. Colo. Oil & Gas Ass'n*, 369 P.3d 573, 585 (Colo. 2016) (concluding that “the state’s interest in the efficient and responsible development of oil and gas resources includes a strong interest in the uniform regulation of fracking”).

67. TEX. NAT. RES. CODE ANN. § 81.0523 (West 2015).

68. OKLA. STAT. tit. 52, § 52-137.1 (2015).

69. *Bd. of Cty. Comm’rs v. Bowen/Edwards Assocs., Inc.* 830 P.2d 1045, 1057 (Colo. 1992).

70. *Voss v. Lundvall Bros., Inc.*, 830 P.2d 1061, 1068 (Colo. 1992).

71. *Bd. of Cty. Comm’rs v. BDS Int’l, LLC*, 159 P.3d 773, 777 (Colo. App. 2006) (prohibiting local fines or bonding requirements, among other requirements, for oil and gas development); *Town of Frederick v. N. Am. Res. Co.*, 60 P.3d 758, 765 (Colo. App. 2002) (prohibiting local regulation of the technical aspects of oil and gas development); see also Katherine Toan, *Not Under My Backyard: The Battle Between Colorado and Local Governments Over Hydraulic Fracturing*, 26 COLO. NAT. RESOURCES ENERGY & ENVTL. L. REV. 1, 27-55 (2015) (describing the history of the battle between state and local control in Colorado and the many court decisions that addressed state preemption of local oil and gas regulation).

Supreme Court concluded that these efforts impermissibly conflicted with state law.⁷²

As oil and gas local preemption cases wound their way through the Colorado courts, political activity in this area also erupted—with some of it directly connected to litigation.⁷³ Citizens, therefore, took to the ballot box, in several failed attempts to revise the Colorado Constitution to allow for more local control. Industry attempted to curtail this control.⁷⁴ Efforts by a governor-appointed state task force to reconcile these competing views were largely unsuccessful.⁷⁵ But after the election of a pro-environmental Democratic governor in 2018, the Colorado Legislature passed, and the governor signed, sweeping legislation that gives local governments relatively extensive power to regulate oil and gas development.⁷⁶ This development starkly contrasts with the trend toward preemption in other states. The move toward strong localized control over oil and gas development in a major producing state might portend a broader shift toward local governance in this legal field.

The full impact of Colorado's bill remains to be seen, as communities enact ordinances under their newly confirmed powers and industry challenges various applications of the bill and communities' interpretation of its meaning. But the bill has already meaningfully changed the nature of local oil and gas law and the state/local regulatory balance in this area. And at least one state, California, has considered following in Colorado's footsteps.⁷⁷ If regulatory diffusion leads more states to adopt similar measures, the seemingly unrelenting trend toward preemption of local control over oil and gas operations could weaken.

72. See *City of Fort Collins v. Colo. Oil & Gas Ass'n*, 369 P.3d 586, 594 (Colo. 2016); *City of Longmont v. Colo. Oil & Gas Ass'n*, 369 P.3d 573, 585 (Colo. 2016).

73. William E. Sparks & Malinda Morain, *Usurping Democracy and the Attempts to Ban Hydraulic Fracturing*, 5 LA. ST. U. J. ENERGY L. & RESOURCES 313, 325-26 (2017) (describing a 2012 legislative effort to give local governments more local control).

74. *Id.* at 336-37 (describing industry groups' and citizen groups' efforts to amend the Colorado Constitution, with four amendments proposed when the *Longmont* case was pending—two in favor of local control, and two against it); *Id.* at 338 (describing two citizen attempts to amend the Colorado Constitution in favor of more local control in 2016, both of which failed).

75. *Id.* at 337; Toan, *supra* note 71, at 54-55.

76. 2019 Colo. Sess. Laws 502; Judith Kohler, *Gov. Jared Polis Ushers in New Era of Drilling Regulation, but Are "Oil and Gas Wars" Over?*, DENVER POST (April 17, 2019, 2:48 AM), <https://www.denverpost.com/2019/04/16/colorado-oil-gas-bill-signed-gov-jared-polis> [<https://perma.cc/A8BR-HRRH>].

77. California has amended its oil and gas conservation act to shift its mission towards greater protection of the environment and to require consultation with other agencies "in furtherance of the California Global Warming Solutions Act." 2019 Cal. Stat. 771. The Act's stated purposes include "protecting public health and safety and environmental quality, including reduction and mitigation of greenhouse gas emissions associated with the development of hydrocarbon and geothermal resources in a manner that meets the energy needs of the state." *Id.*

III. OIL AND GAS PROPERTY RULES: A MOVE TOWARDS SMALL LANDOWNER RIGHTS

The rise of fracking and associated oil and gas development in many U.S. states has not just pushed the boundaries of oil and gas federalism as communities have demanded more control. It has also sparked debates between individual property owners and the oil and gas industry. These debates have led to a doctrinal split among state courts. All oil and gas development occurs in shared “fields” or reservoirs, areas of underground rock with similar geologic characteristics at similar depths. In traditional oil and gas reservoirs, when one person drilled a well into the rock and began producing oil or gas, this well drained the area around the well. If another person happened to own some of the oil and gas in the drainage radius, conflicts ensued. When disputes arose, courts’ universal and largely unquestioned conclusion was that this drainage should be allowed.⁷⁸ This conclusion made sense: if courts policed such disputes, endless questions would emerge as to who owned how much of the oil and gas produced, and who owed whom payments for the drained resources. Allowing drainage with no requirement for compensation, in contrast, encouraged those drillers who were most motivated to produce oil and gas to pursue their interest—thus, in the courts’ view, supporting a productive money-making enterprise. Courts in all fifty states established a similar form of this “rule of capture,” which protected entities who drilled a legal well from having to pay other owners of oil and gas whose resources were drained by that well.⁷⁹ States developed a variety of conservation laws to counter the wasteful drilling practices encouraged by the rule of capture, but the rule held fast in courts.

This fundamental doctrine began to show signs of cracking in 2008. In *Coastal Oil v. Garza*, a mineral-owning family in Texas challenged an oil and gas company’s decision to extend hydraulic fractures (cracks in a rock formation) into the family’s property, which drained off approximately one third of the family’s natural gas, valued at nearly a half million dollars.⁸⁰ The family argued that this was a trespass for which the company should pay damages. Unlike a legal well, the family asserted, hydraulic fracturing was more akin to a slant well—a well unlawfully drilled into someone else’s property, which is not protected by the rule of capture.⁸¹ The Texas Supreme Court disagreed: it concluded that hydraulic fracturing was different from a slant well and was protected by the rule

78. See, e.g., Kramer & Anderson, *supra* note 8, at 899 (describing the long-held rule of capture).

79. *Id.*

80. *Coastal Oil & Gas Corp. v. Garza Energy Tr.*, 268 S.W.3d 1, 6-9 (Tex. 2008).

81. *Id.* at 13-14.

of capture.⁸² A strong partial dissent questioned this conclusion, emphasizing the majority's failure to adequately acknowledge that the rule of capture only applies to legally drilled wells and questioning the majority's efforts to distinguish hydraulically induced fractures from slant wells.⁸³

Following the *Garza* case, owners of minerals in West Virginia and Pennsylvania challenged similar practices to those followed in Texas. These challenges similarly involved the extension of fractures into other mineral owners' properties to drain off the natural gas.⁸⁴ Acting under diversity jurisdiction, a federal court in West Virginia sided with the drained landowner and explicitly followed the partly dissenting opinion in *Garza*.⁸⁵ The court emphasized that oil and gas development that applies hydraulic fracturing to very dense shales is different from traditional development, in which natural drainage occurs.⁸⁶ In shales, oil and gas cannot be produced simply by drilling a well and allowing the oil or gas to flow up the well due to natural pressures in the underground formation. Rather, for shales, a company has to physically crack open the rock to extract the oil and gas.⁸⁷ The court accordingly concluded that the rule of capture does not apply to unconventional oil and gas formations like shales. It further emphasized that if it did, it would give powerful oil and gas companies a license to steal from relatively poor landowners who lacked the resources to drill their own wells and prevent drainage.⁸⁸ A lower court in Pennsylvania agreed with this reasoning,⁸⁹ but the Pennsylvania Supreme Court followed the *Garza* majority.⁹⁰

Although only three states have formally addressed this issue, fracking promises to further upend long-established property doctrines in oil and gas such as the rule of capture as landowners continue to question whether old rules should apply verbatim to new practices.

82. *Id.* at 14.

83. *Id.* at 43-44 (Johnson, J., concurring in part and dissenting in part).

84. *Stone v. Chesapeake Appalachia, LLC*, No. 5:12-CV-102, 2013 WL 2097397, at *1 (N.D.W.V. Apr. 10, 2013).

85. *Id.* at *6.

86. *Id.*

87. *Id.* at *5.

88. *Id.* at *5-6.

89. See *Briggs v. Sw. Energy Prod. Co.*, 184 A.3d 153 (Pa. Super. Ct. 2018), *vacated and remanded*, 224 A.3d 334 (Pa. 2020).

90. *Briggs v. Sw. Energy Prod. Co.*, 224 A.3d 334 (Pa. 2020).

IV. EXTENDING ENVIRONMENTAL PROCEDURAL STATUTES AND RIGHTS TO THE OIL AND GAS REALM

The transformation of oil and gas law has occurred through many avenues — some more direct than others. In some cases, policymakers have enacted sweeping changes to the statutory status quo.⁹¹ But much of the change within the field has been more circuitous. One of the major indirect approaches has been the extension of federal and state environmental review requirements to the oil and gas realm. Although these procedural statutes do not mandate particular environmental outcomes, requiring federal and state agencies to consider in depth both the environmental and social impacts of approving oil and gas wells and associated infrastructure and less damaging alternatives can cause agencies to change their mind. In some cases, these procedural requirements can delay projects so substantially that developers ultimately cancel them. This Part explores the widespread extension of environmental procedural statutes to oil and gas law at the federal and state levels. In the state context, it also analyzes the use of substantive rights to environmental protection, embodied within some state constitutions, to limit oil and gas activity.

A. Federal Procedural Protections: Applying the National Environmental Policy Act to Oil and Gas Activity

Environmental groups have been increasingly effective at leveraging the National Environmental Policy Act (NEPA),⁹² a procedural statute, to provide de facto regulation of the oil and gas industry. Most directly, they have convinced several courts to force the federal government to consider the environmental externalities, including carbon emissions, of oil and gas development on federal land. Courts have also asked the federal government to indirectly consider, and potentially constrain, oil and gas development in its environmental reviews of oil and gas pipelines. Although “merely” procedural, these court victories for environmental groups may foment substantive change, potentially setting a blueprint for a new President — if inclined toward environmental protection — to use unilateral executive authority to constrain the oil and gas industry on both federal and state lands.

91. See, e.g., S.B. 19-181, 72d Gen. Assemb., Reg. Sess. (Colo. 2019).

92. National Environmental Policy Act of 1969, Pub. L. No. 91-190, 83 Stat. 852 (codified as amended at 42 U.S.C. §§ 4321-4370f (2018)).

In the past three years, a growing number of courts have invalidated fossil fuel leases approved by the federal government on federal lands,⁹³ demanding that the government reconsider the approval and complete more NEPA reviews.⁹⁴ Many of the early cases asked the government to consider the climate impact of mining more coal that would eventually be burned, emitting carbon dioxide.⁹⁵ But those cases have now been extended to demand that the government consider the effects of new oil and gas leasing on oil use around the world.⁹⁶ As these suits have become more successful—in invalidating regional management plans that allow leasing, or environmental reviews supporting leasing in Montana, New Mexico,⁹⁷ Wyoming, Utah, and Colorado⁹⁸—environmental groups and concerned states have expanded the reach of litigation. In recent

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93. The lease is the economic agreement most often used by a resource owner such as the federal government or a private property owner. See James W. Coleman, *The Third Age of Oil and Gas Law*, 95 IND. L.J. 389, 398-406 (2020) (explaining why resource owners generally lease their land rather than selling it); Righetti, *supra* note 41, at 383-84 (explaining how both private and public landowners use lease to manage conflicts over the impact of development).
94. The National Environmental Policy Act (NEPA) requires the government to produce “environmental impact statements (EISs) whenever [it] propose[s] major federal actions that would significantly affect the quality of the human environment.” Richard Lazarus, *The National Environmental Policy Act in the U.S. Supreme Court: A Reappraisal and a Peek Behind the Curtains*, 100 GEO. L.J. 1507, 1509-10 (2012). When a judge finds that this environmental review was inadequate, the normal remedy is to invalidate the approval. See James W. Coleman, *Pipelines & Power-Lines: Building the Energy Transport Future*, 80 OHIO ST. L.J. 263, 299 (2019).
95. See, e.g., *WildEarth Guardians v. U.S. Bureau of Land Mgmt.*, 870 F.3d 1222, 1233-38 (10th Cir. 2017); *W. Org. of Res. Councils v. U.S. Bureau of Land Mgmt.*, No. CV 16-21 GF-BMM, 2018 WL 1475470, at *13 (D. Mont. Mar. 26, 2018); see also *Diné Citizens Against Ruining Our Env’t v. U.S. Office of Surface Mining Reclamation & Enf’t*, 82 F. Supp. 3d 1201, 1213 (D. Colo. 2015), *vacated as moot*, 643 F. App’x 799 (10th Cir. 2016) (discussing the emissions’ effect on “ambient air quality”).
96. See, e.g., *San Juan Citizens All. v. U.S. Bureau of Land Mgmt.*, 326 F. Supp. 3d 1227, 1243-44 (D.N.M. 2018).
97. *Id.* at 1256 (setting aside New Mexico oil and gas leases).
98. *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 63-79 (D.D.C. 2019) (addressing Wyoming, Utah, and Colorado leasing); *W. Org. of Res. Councils*, 2018 WL 1475470, at *13 (evaluating a Wyoming resource management plan for coal, oil, and gas); *WildEarth Guardians v. U.S. Bureau of Land Mgmt.*, No. CV-18-73-GF-BMM, 2020 WL 2104760, at *3 (D. Mont. May 1, 2020); Pamela King & Hannah Northey, *Trump’s Efforts to Spur Projects Hit NEPA Wall*, E&E NEWS (Apr. 8, 2019), <https://www.eenews.net/energywire/stories/1060148569> [<https://perma.cc/FKF4-SEL8>] (“A federal court, for example, last month struck down the Bureau of Land Management’s climate review for a set of Obama-era Wyoming oil and gas lease sales. One week later, a Colorado district court tossed an analysis President Obama’s BLM performed and Trump’s BLM finalized for energy development in the North Fork Valley.”).

years, they have filed new challenges to oil and gas development in Montana,⁹⁹ Colorado,¹⁰⁰ the Gulf of Mexico,¹⁰¹ Utah,¹⁰² and California.¹⁰³

Federal courts have also asked the federal government to account for the impact of oil and gas production and consumption when considering oil and gas pipeline permits. For example, a Montana district judge held that the Keystone XL pipeline that would bring heavy oil from Canada to the United States required further review to consider whether its greenhouse-gas impacts may have changed during the ten years in which it has been reviewed by the federal government.¹⁰⁴ In addition, the D.C. Circuit held that the Federal Energy Regulatory Commission (FERC) had to consider the impact of burning more natural gas before approving a natural-gas pipeline.¹⁰⁵

Despite recent successful extensions of NEPA to oil and gas, the Trump administration's current efforts to change NEPA's implementing regulations may somewhat undercut environmental groups' reliance on the statute.¹⁰⁶ The administration is seeking to narrow the kinds of impacts that must be considered in a NEPA review. This would include eliminating consideration of cumulative impacts,¹⁰⁷ which have been a weakness of several of the climate reviews the administration has performed.¹⁰⁸ Consideration of cumulative impacts were one

99. Complaint, *WildEarth Guardians v. U.S. Bureau of Land Mgmt.*, No. 4:18-cv-00073 (D. Mont. May 15, 2018).

100. Complaint, *Rocky Mountain Wild v. Zinke*, No. 1:18-cv-02468 (D. Colo. Sept. 27, 2018).

101. Complaint, *Gulf Restoration Network v. Zinke*, No. 1:18-cv-01674, (D.D.C. July 16, 2018).

102. Complaint, *Living Rivers v. Hoffman*, No. 4:19-cv-00074, (D. Utah Sept. 12, 2019).

103. Complaint, *California v. Stout*, No. 2:20-cv-504, (Jan. 17, 2020). Creative plaintiffs have also sought to block other parts of the oil and gas supply chain under state laws. *See* Complaint, *Puget Soundkeeper All. v. Port of Seattle*, No. 15-2-05143-1 SEA, (Wash. Super. Ct. Mar. 2, 2015) (challenging a port lease to Shell drilling ships that would be used in the Arctic); *see also* Order Granting Port of Seattle's Motion for Summary Judgment, *Puget Soundkeeper All. v. Port of Seattle*, No. 15-2-05143-1 SEA, (Wash. Super. Ct. July 31, 2015) (rejecting the state claims).

104. *Indigenous Envtl. Network v. U.S. Dep't of State*, 347 F. Supp. 3d 561, 576-78 (D. Mont. 2018), *order amended and supplemented*, 369 F. Supp. 3d 1045 (D. Mont. 2018), *and appeal dismissed and remanded*, No. 18-36068, 2019 WL 2542756 (9th Cir. June 6, 2019).

105. *Sierra Club v. FERC*, 867 F.3d 1357, 1374 (D.C. Cir. 2017).

106. Heather Richards, *NEPA Rewrite Could Thwart Climate Fight Against Drilling*, E&E NEWS (Jan. 10, 2020), <https://www.eenews.net/stories/1062040055> [<https://perma.cc/7LS5-a624>].

107. Proposed Rule, Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act, 85 Fed. Reg. 1684, 1708 (Jan. 10, 2020).

108. Madeleine Siegel & Alexander Loznak, *Survey of Greenhouse Gas Considerations in Federal Environmental Impact Statements and Environmental Assessments for Fossil Fuel-Related Projects, 2017-2018*, SABIN CTR. FOR CLIMATE CHANGE L. 33 (Nov. 2019), <https://climate.law.columbia.edu/sites/default/files/content/docs/2019.11.12%20NEPA%20Survey%20Report%20Final>

reason that the administration's approval of the Keystone XL pipeline was struck down.¹⁰⁹ And the administration is proposing to drop separate consideration of "indirect" and "direct" impacts, relying instead on a single definition of what effects it will consider.¹¹⁰ That change, however, may not have a large impact on climate cases. For example, the FERC gas-pipeline case turned on the same standard of causation that the Trump administration is proposing to adopt: effects that are "reasonably foreseeable."¹¹¹

Federal courts' increased supervision of oil and gas impacts through their review of federal leasing and pipelines may serve as a template for a new administration eager to influence state oil and gas policy. Former Vice President Joe Biden, for example, has made sweeping promises to ban oil and gas development on public lands.¹¹² A new President might refuse to grant new permits for any project – any new drilling on federal lands or any pipeline – without a full NEPA analysis. Almost all pipelines cross some rivercourse or creekbed that could count as "federal waters" even under the revised definition. Therefore, NEPA reviews could be imposed even on small, intrastate pipelines.¹¹³ A full NEPA review, known as an Environmental Impact Statement, now takes over five years on average,¹¹⁴ and even once it is completed, it would be difficult to force a reluctant administration to issue new permits.

On the other hand, the extension of relatively detailed federal environmental review to oil and gas production and other parts of the supply chain has not been universal. Courts have often held that pipeline companies need not consider the upstream impacts – expanded oil and gas drilling as a result of pipeline construction – or downstream effects of burning gas from the pipeline in their NEPA analysis.¹¹⁵ But environmental groups have also scored notable victories: the

%20%28Loznak%20and%20Siegel%29_FINAL.pdf [https://perma.cc/NRD6-Z5LH] (finding that federal energy leases generally do not consider the cumulative impact of other decisions to lease).

109. *Indigenous Envtl. Network v. U.S. Dep't of State*, 347 F. Supp. 3d 561, 579 (D. Mont. 2018).

110. Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act, 85 Fed. Reg. 1708 (proposed Jan. 10, 2020) (to be codified at 40 C.F.R. pt. 1500).

111. *Id.*; *Sierra Club v. Fed. Energy Regulatory Comm'n*, 867 F.3d 1357, 1371 (D.C. Cir. 2017).

112. James W. Coleman, *Comparing Candidates' Climate Plans*, ENERGY L. PROFESSOR BLOG (Sept. 14, 2019), <http://www.energylawprof.com/?p=1313> [https://perma.cc/KRC3-MXE3].

113. See Navigable Waters Protection Rule, 33 C.F.R. pt. 328 (2020) (including "perennial and intermittent tributaries" to traditional navigable waters as waters of the United States).

114. Coleman, *supra* note 93, at 301.

115. See, e.g., *Appalachian Voices v. Fed. Energy Regulatory Comm'n*, No. 17-1271, 2019 WL 847199 (D.C. Cir. 2019); *Birckhead v. Fed. Energy Regulatory Comm'n*, 925 F.3d 510 (D.C. Cir. 2019); *Del. Riverkeeper Network v. Fed. Energy Regulatory Comm'n*, 895 F.3d 102 (D.C. Cir. 2018).

growing compendium of cases requiring more careful review of the effects of oil and gas development has commenced a small but growing trend toward more detailed environmental review of oil and gas projects.

B. State Environmental Review Requirements

State statutory environmental procedural requirements modeled on NEPA and constitutional environmental rights provisions have also provided new avenues to require states to consider or limit the environmental impacts of oil and gas production. Advocates have used these requirements to draw attention to environmental externalities of oil and gas development, to limit degradation of national resources, and to encourage regulation of this development.

In the 1970s, a number of states adopted environmental procedural requirements, mandating that state agencies consider the environmental impacts of certain state-approved projects or actions. Impacts considered in these reviews include air quality, community impacts, noise, pollution, road damage, and groundwater contamination, among others. Though based on NEPA, state environmental procedural statutes differ with respect to the categories and magnitude of state actions subject to review.¹¹⁶ In many states, decisions regarding oil and gas permitting are subject to some or all state environmental procedural requirements. For instance, state environmental procedure acts have been applied to require review of decisions by the New York State Department of Environmental Conservation Bureau of Oil and Gas Permitting and Management,¹¹⁷ oil and gas decisions by a county and the Division of Oil, Gas, and Geothermal Resources (DOGGR) in California,¹¹⁸ and the Montana Board of Oil and Gas Conservation.¹¹⁹ The required environmental review may encourage orderly planning, adverse impact mitigation, and public engagement. But, as in the federal realm, it may also come at a significant cost or cause project delays.

In response to concerns about the statewide impacts of rapidly expanding technologies such as hydraulic fracturing, state legislatures and advocates have turned to environmental procedure acts to help them understand the potential impacts of the changing industry. California added statutory provisions requiring DOGGR to prepare a new environmental impact report in the absence of any

116. Daniel P. Selmi, *Themes in the Evolution of the State Environmental Policy Acts*, 38 URB. LAW. 949, 951 (2006).

117. *Wiser v. Enervest Operating, L.L.C.*, 803 F. Supp. 2d 109, 134 (N.D.N.Y. 2011).

118. *King & Gardiner Farms v. Cty. of Kern*, 259 Cal. Rptr. 3d 109 (Cal. Ct. App. 2020); *Ass'n of Irrigated Residents v. Cal. Dep't of Conservation*, 2020 WL 1698749 (Cal. Ct. App. Apr. 8, 2020).

119. *Mont. Wildlife Fed'n v. Mont. Bd. of Oil & Gas Conservation*, 280 P.3d 877, 886 (Mont. 2012).

proposed project.¹²⁰ New York recognized that its prior general environmental impact study of oil and gas activities did not adequately analyze the impacts of multi-well pads and high-volume hydraulic fracturing in the Marcellus Shale. As a result, it issued a moratorium on drilling permits and, after finalizing a seven-year review process culminating in preparation of a supplemental generic environmental impact statement, adopted a statement of findings prohibiting high-volume hydraulic fracturing in New York.¹²¹

Plaintiffs have achieved limited success bringing judicial challenges based on the adequacy of county and agency decisions and environmental analyses. Courts evaluate the adequacy of state environmental impact analyses according to statutory judicial review standards, including those for administrative proceedings.¹²² These standards tend to be deferential to agency decisions¹²³ and thus, judicial review is unlikely to favor plaintiffs challenging state environmental analyses.¹²⁴ Thus far, examples of oil and gas decisions which have been remanded or reversed based on state environmental procedure statutes are scarce. However, a number of environmental plaintiffs have challenged state environmental reviews of oil and gas and used these processes to argue for more comprehensive reviews including indirect impacts and programmatic reviews. With only one recent exception,¹²⁵ they have not been able to overcome strong judicial deference. For instance, in California, litigants were unsuccessful in advocating that the DOGGR was required to consider indirect impacts caused by the

120. 2013 Cal. Stat. 2525.

121. See *Final Supplemental Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program*, N.Y. STATE DEP'T ENVTL. CONSERVATION 41 (June 2015), https://www.dec.ny.gov/docs/materials_minerals_pdf/findingstatehvhf62015.pdf [https://perma.cc/68BT-LKFF]

122. See, e.g., CAL. PUB. RES. CODE §§ 21168.5; *Jackson v. N.Y. State Urban Dev. Corp.*, 494 N.E.2d 429, 436 (N.Y. 1986); Stacy Lynn Bettison, *The Silencing of the Minnesota Environmental Policy Act: The Minnesota Court of Appeals and the Need for Meaningful Judicial Review*, 26 WM. MITCHELL L. REV. 967, 981-84 (2000).

123. *Save Tara v. City of W. Hollywood*, 194 P.3d 344, 355 (Cal. 2008) (“While judicial review of CEQA decisions extends only to whether there was a prejudicial abuse of discretion, ‘an agency may abuse its discretion under CEQA either by failing to proceed in the manner CEQA provides or by reaching factual conclusions unsupported by substantial evidence.’” (quoting *Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova*, 150 P.3d 709, 722 (Cal. 2007))).

124. See, e.g., Michael B. Gerrard, *The Dynamics of Secrecy in the Environmental Impact Statement Process*, 2 N.Y.U. ENVTL. L.J. 279, 279 (1993); Michael B. Gerrard, *Judicial Review Under SE-QRA: A Statistical Study*, 65 ALB. L. REV. 365, 376 (2001); Philip Weinberg, *SE-QRA: Effective Weapon—If Used as Directed*, 65 ALB. L. REV. 315, 321 (2001).

125. *King & Gardiner Farms v. Cty. of Kern*, 259 Cal. Rptr. 3d 109 (Cal. Ct. App. 2020).

additional oil and gas development made possible by well stimulation.¹²⁶ In Montana, the Supreme Court has rejected arguments that the Environmental Policy Act requires programmatic assessments of oil and gas leasing decisions or consideration of environmental impacts during the coal-leasing phase.¹²⁷ Despite limited success to date, a recent victory in California should provide plaintiffs with some encouragement. The California Court of Appeal's decision in *King & Gardiner Farms v. County of Kern* to set aside Kern County's certification of an environmental impact report's findings and conclusions, and the county's approval of an oil and gas zoning ordinance,¹²⁸ indicates that if plaintiffs continue to hammer away at the fortress of judicial deference, they are likely to eventually find a sympathetic forum.

State constitutional environmental rights provisions and environmental rights statutes may also provide environmental advocates, concerned landowners, and local governments with avenues to challenge state regulation of oil and gas development and associated permitting activity. The Alaska, Pennsylvania, Montana, Illinois, Virginia, Hawaii, and Texas constitutions all include some versions of environmental rights language that require the state to protect public interests in natural resources.¹²⁹ Pennsylvania's provision further creates a constitutional public trust over state natural resources.¹³⁰ While some state constitutional environmental rights provisions have faded into relative obscurity, others have elevated the right to a clean environment to be on par with other fundamental rights.¹³¹ Though once regarded as aspirational,¹³² in some states these provisions have served as the basis for enacting new regulations on oil and

¹²⁶ *Ctr. for Biological Diversity v. Cal. Dep't of Conservation*, 248 Cal. Rptr. 3d 449 (Cal. Ct. App. 2019).

¹²⁷ *Mont. Wildlife Fed'n v. Mont. Bd. of Oil & Gas Conservation*, 280 P. 3d 877 (Mont. 2012); *N. Plains Res. Council v. Mont. Bd. of Land Comm'rs*, 288 P.3d 169, 171 (Mont. 2012).

¹²⁸ *King & Gardiner Farms*, 259 Cal. Rptr. 3d at 179.

¹²⁹ ALA. CONST. art. VIII, § 1; HAW. CONST. art. XI, §§ 1, 9; ILL. CONST. art. XI, § 1; MONT. CONST. art. IX, § 1. PA. CONST. art. I, § 27; TEX. CONST. art. XVI, § 59(a); VA. CONST. art. XI, § 1.

¹³⁰ *Pa. Env'tl. Def. Found. v. Commonwealth*, 161 A.3d 911, 940 (Pa. 2017); John C. Dernbach, *The Potential Meanings of a Constitutional Public Trust*, 45 ENVTL. L. 463, 474-75 (2015).

¹³¹ Barton H. Thompson, Jr., *Constitutionalizing the Environment: The History and Future of Montana's Environmental Provisions*, 64 MONT. L. REV. 157, 158-59 (2003); Jack R. Tuholske, *U.S. State Constitutions and Environmental Protection: Diamonds in the Rough*, 21 WIDENER L. REV. 239 (2015).

¹³² See Tammy Wyatt Shaw, *The Doctrine of Self-Execution and the Environmental Provisions of the Montana State Constitution: "They Mean Something"*, 15 PUB. LAND L. REV. 219 (1994).

gas activities,¹³³ upholding the state's police power to regulate oil and gas,¹³⁴ assessing cumulative impacts of offshore development,¹³⁵ and granting standing to communities to challenge state actions that could degrade environmental quality.¹³⁶ In other states, statutory environmental rights provisions expressly grant individuals and local governments the right to sue to protect natural resources from destruction.¹³⁷ These statutes and state constitutional provisions have been used to enjoin development that would adversely impact the environment and natural resources,¹³⁸ though they have been less successful in cases concerning individual projects with principally local impacts.¹³⁹

Although instances where environmental procedural statutes or environmental rights provisions have wholly invalidated laws or development decisions are rare, they indicate the potential power of these statutes and constitutional protections to shape regulation of the oil and gas industry. Where earnestly applied, environmental analyses can help remedy information gaps, empower communities, reinforce norms of environmental protection, and evoke trust principals. As such, in addition to their procedural function, these statutes have provided new pathways for advocacy, at times delaying projects and encouraging property owners and concerned citizens to pursue legislative change.

CONCLUSION

Oil and gas law is no longer lodged within the stodgy world of royalty fractions and complicated rules for spacing out wells to ensure maximum drainage of oil and gas from underground formations. Indeed, the past decade of booming development has caused a sea change in all areas of oil and gas governance, from state regulation and property rules to the balance between state and local

¹³³. TEX. NAT. RES. CODE ANN. § 92.0001 (West 2019) (“It is the further finding of this legislature that it is necessary to exercise the authority of the legislature pursuant to Article XVI, Section 59, of the Constitution of the State of Texas to assure proper and orderly development of both the mineral and land resources of this state and that the enactment of this chapter will protect the rights and welfare of the citizens of this state.”)

¹³⁴. *Endeavor Energy Res., L.P., v. Discovery Operating, Inc.*, 554 S.W.3d 586 (Tex. 2018); *SWEPI LP v. R.R. Comm’n*, 314 S.W.3d 253 (Tex. App. 2010).

¹³⁵. *Sullivan v. Resisting Envtl. Destruction on Indigenous Lands*, 311 P.3d 625, 629 (Ala. 2013).

¹³⁶. *Robinson Twp. v. Commonwealth (Robinson II)*, 83 A.3d 901 (Pa. 2013).

¹³⁷. MINN. STAT. ANN. § 116B.01 (West 2020).

¹³⁸. *Pa. Envtl. Def. Found. v. Commonwealth (PEDF)*, 161 A.3d 911, 939 (Pa. 2017); *State ex rel. Dep’t of Health & Envtl. Scis. v. Green*, 739 P.2d 469, 473 (Mont. 1987); *State v. Bernhard*, 568 P.2d 136, 138 (Mont. 1977); Alexandra B. Klass, *Modern Public Trust Principles: Recognizing Rights and Integrating Standards*, 82 NOTRE DAME L. REV. 699, 714-15 (2006).

¹³⁹. Tuholske, *supra* note 131, at 247.

control in this area. To be sure, like all revolutions, this one is tied to particular jurisdictions while others resist or reject these new trends. Colorado has paved a new path toward explicit environmental oil and gas regulation—a stark transition from the tendency of state oil and gas law to foster oil and gas development—and California may follow suit.¹⁴⁰ But other states with long histories of oil and gas development and booming petroleum economies, and which lack the extensive conflicts between people and wells that have arisen in Colorado, remain anchored in more traditional regulatory approaches. And although a federal court in West Virginia has held that oil and gas companies may not use fracking to take oil and gas from nearby property owners, courts in Texas and Pennsylvania disagree.¹⁴¹ Further, whereas some states have used extended environmental review requirements to oil and gas operations, other states lack these requirements altogether.

It is too early to declare that oil and gas law is now an environmental legal field. Indeed, given the state-level dominance of this governance area, and the range of state politics and culture, oil and gas regulations and legal doctrines are unlikely to ever converge upon one approach. But the recent S.B. 19-181 in Colorado—a state that enjoys substantial economic advantages from oil and gas development—shows the dramatic turn in oil and gas governance toward a more environmental approach. And the willingness of a federal court to declare, at least for West Virginia, that fracking does not give oil and gas companies a license to steal from relatively poor neighboring landowners, is a direct rejection of the long-followed rule of capture, which previously allowed for largely unfettered development of oil and gas.

Oil and gas governance will always remain a legal field unto itself. As a pooled underground resource, for which surface access is required for development, thorny oil-and-gas-specific property questions will continue to arise. But environmental legal principles have already crept substantially into the field—and explicitly so in Colorado—showing how national social movements can influence even a highly decentralized legal field.

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¹⁴⁰. See *supra* note 19 and accompanying text.

¹⁴¹. See *supra* Part IV.

THE NEW OIL AND GAS GOVERNANCE

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